

Department of Agribusiness and Applied Economics

North Dakota State University

January 1 to December 31, 2002

Annual Report

The Mission of the Department of Agribusiness and Applied Economics

The mission of this Department is to provide objective economic analysis to support informed decision making in areas of resource allocation, business management, and public policy for the people of North Dakota and beyond. Faculty and staff shall provide high-quality education programs for undergraduate and graduate students and for audiences across the state reached through University outreach efforts.

from:

Departmental Rules of Governance

September 26, 2000

<http://www.ext.nodak.edu/homepages/aeddept/minutes/Rules-of-Governance.htm>

Contents

Introduction and Departmental Overview.....	3
I. GOALS/ACCOMPLISHMENTS CURRENT YEAR (COLLEGE/UNIT)	4
A. DISSEMINATION - INSTRUCTION AND STUDENT SUCCESS	4
1. Teaching Initiatives.....	4
2. Incorporation of Technology in Teaching.....	4
3. Advising Efforts	4
4. Curriculum Development.....	6
5. Accreditation or Other Reviews.....	8
6. Activities in Student Recruitment/Retention, Enrollment Management, and Other Student Activities	8
7. Employment of Graduates.....	10
8. Senior Professors Teaching Freshman and Transfer Students.....	10
9. Summer School Activities	10
10. Awards and Recognition of Faculty/Students.....	11
11. Extension Service Teaching.....	11
B. RESEARCH/SCHOLARSHIP.....	12
1. Highlights of Research and Scholarly Activity (Calendar year 2002).....	13
2. Grants/Contracts/Research.....	18
3. Articles/Books/Publications (Calendar year 2002).....	21
4. Selected Presentations before Professional Audiences (Calendar year 2002).....	26
C. OUTREACH	29
1. Professional Service.....	29
2. Alumni Events and Other Community-Related Activities.....	29
3. Fund-Raising Accomplishments	29
4. Other Outreach Activities	30
D. SPECIAL INITIATIVES	30
1. Cultural Diversity.....	30
2. Affirmative Action/Equal Opportunity.....	30
3. Cooperation Programming/Interdisciplinary Efforts/Interinstitutional Activities	31
4. International Activities.....	31
5. Economic Development Efforts.....	32
6. Assessment.....	32
7. Addressing Institutional Purposes.....	35
8. College/Unit Planning; Functions/Activities/Accomplishments	36
E. Other Goals.....	36
II. COMMENTS	37
III. APPENDIX. CY 2002 courses	38

Introduction and Departmental Overview

The Department of Agribusiness and Applied Economics strives to improve public and private decision making through teaching, research, and outreach activities soundly based on economic science.

Teaching programs include offering undergraduate majors in Agribusiness, Agricultural Economics, and Economics. A graduate M.S. degree is offered in Agribusiness and Applied Economics with areas of concentration in applied research, agribusiness, transportation, and natural resource management. The Department is involved in four new Ph.D. programs: Transportation and Logistics, Food Safety, Environmental and Conservation Sciences, and Natural Resource Management.

Research projects resulted in 18 journal articles and 40 departmental publications in 2002. Topics ranged over a variety of production, marketing, and economic development topics relevant to the state and nation. The Department generated new extramural funds totaling \$1,609,169 in 2002.

Extension activities included service to North Dakota citizens through cooperative education programs, development of analytical tools for farmers developing optimal responses to the new 2002 Farm Bill, community economic development projects, and marketing, management and financing workshops for agricultural producers and Extension staff.

Additional information about the Department and its associated research and outreach Centers can be found at:

The Department of Agribusiness and Applied Economics at North Dakota State University:

<http://www.ext.nodak.edu/homepages/aeddept/index.html>

The Center for Agricultural Policy and Trade Studies:

<http://www.ag.ndsu.nodak.edu/capts/>

The Quentin Burdick Center for Cooperatives:

<http://www.ag.ndsu.nodak.edu/qbcc/>

The North Dakota State Data Center:

<http://www.ndsu.nodak.edu/sdc/>

I. GOALS/ACCOMPLISHMENTS CURRENT YEAR (COLLEGE/UNIT)

A. DISSEMINATION - INSTRUCTION AND STUDENT SUCCESS

1. Teaching Initiatives

Teaching initiatives in 2002 primarily consisted of further refinements in the department's courses and programs of study. Faculty development efforts included selection of Stan Herren, Ed O'Relley, and Cheryl Wachenheim as Fellows of the Faculty Institute for Excellence in Learning (FIEL). The FIEL program emphasizes techniques involving active learning, cooperative learning, and problem-based learning for the improvement of student learning.

2. Incorporation of Technology in Teaching

The Department continues to adopt new technology to enhance teaching. Class information is available on the web for all classes taught by the Department. Course information can be found at:

http://www.ext.nodak.edu/homepages/aedep/classes_spring.htm

The Department's internet site continues to be updated with reports of student activities. New additions to the OnLocation site this year include reports from the NAMA team during the competition in San Diego and daily entries from the 14 students participating in this year's summer exchange program with the Ecole Superieure d'Agriculture in Angers, France.

Cole Gustafson continues to develop a web-based format for ECON 202 (Principles of Macroeconomics). One section of ECON 202 was completely online in spring, 2003. Cheryl Wachenheim completed her distance education course in AgriSales, which was available for the first time in spring 2003.

3. Advising Efforts

Students are assigned individual advisors. A rotating schedule of assignments assigns three faculty to incoming freshmen and transfer students each year. Faculty retain the same advisees during the students' progress through their undergraduate programs unless students request changes. The number of advisees assigned to each faculty member averages 13 students. There were 171 undergraduate students listed as Ag Econ (96 students), Agribusiness (52), or Economics (23) majors at the beginning of the fall 2002 semester on the list of students and advisors distributed from the Registrar's office.

Fall 2002 Advising Assignments

Advisor:	Freshmen	Sophomores	Juniors	Seniors	Total
DeVuyst, C.	2	11	0	4	17
DeVuyst, E.	0	3	12	4	19
Gustafson, C.	2	3	1	1	7
Herren, S.	0	1	3	3	7
Leitch, B.	10	3	3	7	23
Mack, L.	0	1	4	9	14
Nelson, B.	0	0	0	1	1
Nganje, W.	0	1	6	9	16
O'Relley, E.	0	0	0	1	1
Sarmiento, C.	11	0	0	0	11
Saxowsky, D.	0	0	0	1	1
Shultz, S.	0	1	0	7	8
Wachenheim, C.	0	0	2	11	13
Wilson, W.	0	7	8	0	15
Others	2	1	2	6	11
Total	30	34	41	66	171

In order to assess the quality of undergraduate advising, an evaluation was conducted in the spring 2003 semester. Feedback was received from 77 current students in the program providing comments on 11 faculty advisors. Results indicated divergence in students' perceptions of advising effectiveness by the different faculty. Aggregated results for the Department are listed below:

My Advisor is well prepared to help me with:	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
Course selection	47	23	4	1	2
Career planning	42	18	13	2	2
University life	37	25	13	0	2
My advisor cares about me	49	19	4	4	1
I would recommend my advisor to others	50	16	5	1	5
Total	225	101	39	8	12

4. Curriculum Development

Enrollment Trends

Student FTEs generated by level and total, AY94-AY03.

Year	100 (incl 201 & 202)	200 (excl 201&202)	300	400	600 & 700	Total FTEs
AY94	2.09	1.03	1.54	0.88	0.45	6.68
AY95	1.86	1.16	1.77	0.85	0.50	6.87
AY96	2.73	1.18	1.74	1.08	0.71	7.89
AY97	2.28	1.39	1.85	0.72	0.45	7.17
AY98	2.58	1.07	1.95	0.80	0.72	7.37
AY99	2.44	1.44	2.17	0.93	0.79	8.16
AY00	2.76	1.14	2.07	1.17	0.39	8.04
AY01	3.80	1.30	2.82	1.18	0.76	10.12
AY02	7.16	1.24	4.05	1.29	0.74	15.08
AY03	7.17	1.03	4.06	1.05	0.80	14.33

Notes

- AY03 values do not include summer session, 2003
- Appendix course lists are for calendar year 2002, consistent with the dates of the annual report. Totals in this table are on a school year basis, more reflective of annual resources allocated for each academic year.
- Numbers may not sum to total due to inclusion of courses in the total that may not have been included in the individual course level calculations.

The student FTEs reported in the table illustrate both the increase in student FTEs generated by the department (increasing 126% between AY94 and AY03) and a change in the composition of courses delivered. Nearly half of the student FTEs now generated are in the lower level principles classes, as opposed to about 30% in these classes at the beginning of the period.

Recognizing that data are not complete for AY03, trends through AY02 indicate a rapid enrollment increase of 243% in the principles courses. Enrollment has been stable in the department's 200 level classes (primarily introductory courses in agribusiness and agricultural economics serving both our majors and students from the College). There has been a sharp increase of 164% in 300 level classes, primarily due to teaching the intermediate micro- and macroeconomics classes through the department since AY02 and the required course in Money and Banking (ECON 324) taken by some of our majors as well as required of majors in Business Administration. Course enrollments at the 400 level has increased about 47% since AY94. This increase has been due to the growing popularity

of some of the agribusiness courses (e.g., AGECE 420), as well as minor gains from teaching senior level Economics courses.

New or Modified Courses:

AGECE 350 (AgriSales) – An applied course in business-to-business agricultural sales was approved in spring 2002 as a permanent course. The course mirrors similar courses taught at universities with agribusiness programs. The course is designed as a service course for students in the College of Agriculture, Food Systems, and Natural Resources, as well as students in the agribusiness major. Spring 2002 enrollment was 26 students (AGECE 399) Spring 2003 enrollment was 33 students (AGECE 350).

AGECE 491 (Senior Agribusiness Seminar) – Cheryl DeVuyst developed a new course designed for students to formally share internship experiences. The course is a companion to the new internship requirement for the Agribusiness major.

BUSN 780 (Business Conditions Analysis) – To further collaboration with the College of Business Administration, Stan Herren developed a new macroeconomics course aimed at MBA students. Based upon the heterogeneous background of the students in economic preparedness, Herren offered a less technical course to MBA students. The adopted text emphasizes understanding and interpreting media analyses of macroeconomics similar to which MBA students will be exposed in their business careers. Students were engaged in extensive discussions of current macroeconomic events. Spring 2002 enrollment was 37 students.

AGECE 744 (Agribusiness I: Agricultural Product Marketing and Agribusiness Strategy) and AGECE 746 (Agribusiness II: Agrifinance and Commodity Trading) – A two semester sequence of graduate courses in Agribusiness was offered for the first time in 2001-2002. Four of the department's Agribusiness faculty (C. DeVuyst, W. Nganje, C. Wachenheim, and W. Wilson) team taught the courses, contributing their combined knowledge in management, strategy, finance, and marketing to the graduate students.

Courses taught and FTEs generated for the 2002 calendar year are listed in Appendix A.

The faculty continue to teach courses in excess of their appointments funded from the resident instruction budget. The following table includes departmental faculty with teaching appointments, the number of student FTEs generated from coursework, independent studies, and master student thesis supervision during AY02, the proportion of their position funded from instructional accounts, and the excess being supported from research funds.

Faculty loads, calendar year 2002.

<i>Instructor</i>	<i>FTEs Generated</i>	<i>Appointment</i>	<i>Overload</i>
Bitzan,J*	0.083	0	0.083
Cooper*	0.276	0	0.276
DeVuyst,C	0.434	0.3	0.134
DeVuyst,E	0.798	0.35	0.448
Gustafson,C	0.712	0.2	0.512
Hearne,R	0.086	0.1	-0.014
Herren,S	1.439	1	0.439
Koo,W	0.164	0.1	0.064
Lambert,D	0.248	0.1	0.148
Leistriz,L	0.010	0	0.010
Leitch,B	2.399	1	1.399
Mack,L	2.235	1	1.235
Nelson,B	0.215	0.45	-0.235
Nganje,W	0.335	0.4	-0.065
O'Relley,E	1.405	1	0.405
Petry,T	1.551	0.75	0.801
Sarmiento,C	0.423	0.3	0.123
Saxowsky,D*	0.353	0	0.353
Shultz,S	0.471	0.2	0.271
Tolliver,D*	0.038	0	0.038
Wachenheim,C	0.552	0.4	0.152
Wilson,W	0.369	0.32	0.049
Total	14.595	7.970	6.625

* - Indicate faculty from other units teaching courses in Agribusiness and Applied Economics.

5. Accreditation or Other Reviews

No accreditation or other reviews were conducted during 2001-2002.

6. Activities in Student Recruitment/Retention, Enrollment Management, and Other Student Activities

Student Recruitment/Retention

Undergraduate Students

Undergraduate student recruitment efforts need to be increased for AY03. Freshmen majors listed in the spring advisee sheets listed 11 agribusiness majors, eight agricultural economics majors, and two economics majors. Preliminary enrollment figures derived from the

summer orientation schedules for fall 2002 reflect further drops in the aggregate number of departmental majors: two new agribusiness majors, nine new agricultural economics majors, and three new economics majors.

Three avenues of recruitment will be pursued in AY03:

1. Awareness of the Agribusiness major must be increased. Hearsay reports indicate students interested in careers in agribusiness are enrolling in the CBA because the availability of the Agribusiness degree is not widely known.
2. The department is forming a chapter of Omicron Delta Epsilon, the international honor society in Economics. This chapter will be a component of a new Economics Club anticipated to form in the fall 2003 semester. These activities will increase on-campus awareness of the Economics program as well as provide opportunities for interaction with high school Economics programs. Unfortunately, club organization and recruitment efforts were unsatisfactory in the fall 2002 semester and neither ODE nor the Economics Club has been established.
3. The department actively sponsors a Collegiate Farm Bureau Club in collaboration with the national Farm Bureau. This new club meets throughout the year and offers lively debate of public policy issues.

Although offered in spring 2003, the Department Chair offered a seminar in Economics Education for students that included teaching in three local high schools as well as providing coaching assistance for the high schools sponsoring teams in the Economics Challenge Bowl competition in April at the MSU-M campus. One of the teams (Fargo's South High) advanced to regional competitions in Minneapolis, though it failed to gain a national competition berth.

Graduate Students

The Department is a partner in four new Ph.D. programs: 1) Food Safety; 2) Natural Resource Management; 3) Transportation and Logistics; and 4) Environmental and Conservation Sciences. All four programs were launched in the fall 2002 semester. Six students choosing the transportation economics and regulation option started the T&L program in the fall. Funding is available for all these students, primarily from the Upper Great Plains Transportation Institute. One student is on a partial teaching assistantship and will teach ECON 105 (Elements of Economics) in the spring 2003 semester.

Due to failure to garner additional faculty and operational support, no new students have been accepted into the T&L transportation economics and regulation option for the fall 2003 semester.

Enrollment Management

Student records are maintained by front office staff. Number of students and contact information is available via these records.

Other Student Activities

Clubs – The primary clubs for agricultural economics majors are the Agribusiness Club, the student chapter of NAMA, and Collegiate Farm Bureau. The Agribusiness Club hosts many fundraising and social events during the year. An annual award banquet in the spring honors both outstanding undergraduates and leaders in the state’s agribusiness industry. The NAMA chapter works all year in developing a marketing plan for an innovative agribusiness product. The chapter’s efforts culminate in presentations at the annual NAMA competition. Lack of faculty this year led to the course being taught by Collin Clark, a member of the regional professional NAMA chapter.

The department petitioned the national office in June 2002 to form a chapter of Omicron Delta Epsilon, the international honor society in Economics. Stan Herren has assumed responsibility for the new chapter. No activities were initiated other than chapter chartering in 2002.

Scholarships - The Department of Agribusiness and Applied Economics has one of the most successful scholarship programs on campus.

7. Employment of Graduates

Both graduate and undergraduate students from the Department continue to encounter excellent job prospects. Long term trends indicate approximately 30% of the graduating seniors return to family farming. The majority of the remaining graduates find employment with firms such as John Deere, ADM, Cenex, Farm Services Administration, and other agribusiness companies. The average entry level salary of the undergraduates, excluding those returning to farming, was over \$30,000. Personal contacts by several of the agribusiness faculty resulted in the recruitment and placement of several undergraduate and graduate students in high profile positions in firms such as ConAgra and U.S. Wheat Associates.

8. Senior Professors Teaching Freshman and Transfer Students

There is no departmental policy emphasizing the teaching of freshman and transfer students by senior faculty.

9. Summer School Activities

Since assuming responsibility for the Economics program in July 2001, the Department now offers several summer courses. Courses offered during the summer of 2002 include ECON 201 (Principles of Microeconomics), ECON 202 (Principles of Macroeconomics), and ECON 324 (Money and Banking). In addition, faculty are involved in summer teaching through the Food Safety Institute (SAFE 470/670 and 490/690) and the summer study abroad program in France.

Summer graduate school efforts during the summer are focused on advisement of graduate students and overseeing thesis research.

10. Awards and Recognition of Faculty/Students

The following faculty awards were received during calendar year 2002:

George Flaskerud – Communicator of the Year Award, NDSU Agricultural Communications Department and ND Agricultural Communicators in Education. November 2002.

Sandy Osborne – State Award of Meritorious Support Service, Epsilon Sigma Phi.

Kathleen Tweeten - Dr. George Morse Distinguished Business and Community Service Award, The Business Retention and Expansion International Association. Memphis, TN. May 2002.

Cheryl Wachenheim – National Outstanding Advisor Award, National Agri-Marketing Association. Nashville, TN. April 2002.

11. Extension Service Teaching

Highlights of Extension Service Teaching Programs in CY02:

Crop Insurance Conference

This conference provides information on the latest changes in the industry. Insurance agents may receive continuing education credits for this conference.

Agricultural Lenders Conferences

Conferences were held for agricultural lenders in four locations across the state. Approximately 250 lenders from North Dakota, Minnesota and South Dakota attended.

Devils Lake Round-up

The Round-up is a two-day workshop and trade show that has been running for nearly twenty years. Extension economists made presentations on key features of the 2002 Farm Bill and cropping considerations for 2003.

Cow-Calf Schools (Minot, Ellendale, Carrington)

These were one-day schools covering management and marketing of beef cattle.

International Crop Expo in Grand Forks

This is a two-day crop show and educational conference held at the Alerus Center.

In-service training for county agents

Extensions economists continue to provide in-service training for all of the county agricultural agents. Primary focus in CY02 was on the 2002 Farm Bill.

Marketing Club Facilitation

Extension economists continue to provide necessary state support for the 43 Marketing Clubs throughout North Dakota.

Carrington Irrigation Workshop

This workshop was for beginning and potential irrigators. I discussed the costs of irrigation investment as well as the cost and returns for various crop rotations under irrigation.

The Quentin Burdick Center for Cooperatives

QBCC continues to offer executive training programs for the New Generation Cooperatives. Approximately 150 directors and CEOs, representing 20 cooperatives from 15 states have attended these programs. These programs have focused on governance, strategic planning and financial analysis and decision-making, director responsibilities and evaluation, and audit committee responsibilities. Evaluations have been very positive and later feedback indicates that many cooperatives are putting into practice the concepts and tools presented at the programs.

Computer Accounting for Farm, Home, and Business

Seventeen workshops on accounting and financial management were presented at various sites across North Dakota.

Finpack Farm Financial Management

Two two-day Finpack farm financial management computer workshops were conducted in 2002. Andy Swenson also presented in-class instruction on Finpack to students enrolled in AGE 420, the department's capstone course in farm management.

Tax Management for Ag Producers

The program was presented via interactive video to 10 sites in ND in 2002.

Community Strategic Planning/Facilitation

Extension Community Development specialist worked with planners and decision makers in various counties and towns around North Dakota to develop resource assessments, strategic plans, and identify funding sources for research and outreach to meet community needs.

Entrepreneurship and Business Retention and Expansion

Educational materials were prepared and presented addressing Branding North Dakota, Agritainment and other farm and ranch recreation enterprises, Youth Entrepreneurship, and Marketplace of Ideas.

B. RESEARCH/SCHOLARSHIP

The mission of this unit is to provide objective economic analysis and to support informed decision making in areas of resource allocation, business management, and public policy for the people of North Dakota and beyond (from the Department's mission statement adopted February 26, 1992).

In addition to contributing new knowledge, economics research is essential to the maintenance of effective and relevant educational and outreach efforts. Individual faculty members are encouraged to develop research programs in their areas of specialization to increase the value of their contributions to the people of North Dakota.

1. Highlights of Research and Scholarly Activity (Calendar year 2002)

Departmental research addresses a wide variety of issues important to American producers and consumers:

Biotechnology

Bill Wilson has collaborated with others in the Department in research related to GM crop marketing. Wilson et al.'s research results are being used by government agencies, firms and by commodity groups in making decisions about the disposition of GM wheat, one of the most fundamental issues confronting regional agriculture.

Livestock Economics

Many Northern Plains agricultural producers are confronted with labor constraints during critical times of the production process. Calving, tillage and planting, and harvest seasons often tax a producer's labor resources. Further, the choice of calving season and crop enterprises largely determines the timing of labor demands. This mix of calving season and crop enterprise choices can lead to conflicts in labor scheduling. A study by Eric DeVuyst investigates alternative calving seasons and crop enterprises under various labor availability scenarios. Using a linear programming model, optimal crop plans are developed given calving season and labor availability. Results indicate that when labor is not constraining late spring calving is optimal. Only under the most severe labor constraints is the fall calving season the highest returning.

Tim Petry has been involved with the Dakota Lamb Growers Cooperative since the idea of slaughtering and processing lambs in ND first surfaced in 1995. My research has resulted in lambs now being successfully processed and natural lamb products being marketed throughout the US. Both US and ND market lamb prices were abnormally low, averaging \$45 per hundredweight, in the fall of 2002 through the spring of 2002. Several factors, including the terrorist acts of September 11, 2001, contributed to these low prices. However, ND lamb producer members that sold lambs through the cooperative were able to sell lambs for \$75 per hundredweight, \$30 per hundredweight above the market price. It was estimated that 5,200 lambs were sold for \$43 per head more than they would have brought on the cash market. Those ND lamb producer members received an estimated \$218,400 in additional revenue by value-added marketing. 2002

Extremely dry weather conditions in an 18 county area in Southcentral and Southwestern ND during the Spring and Summer of 2002 led to that area being declared a national disaster area. The impacted area had about one-half of the beef cattle population in ND. Due to lack of available forages for pasture and hay production, beef cattle producers were faced with critical decisions relating to their cow herd. Petry developed several Microsoft Excel spreadsheets that were downloadable from the Departmental website to aid in ranch decision-making. The spreadsheets showed an example, along with a section for producers to put their own figures, for whether they should reduce herd size; graze drought-stressed small grain crops, and/or Conservation Reserve Program(CRP) land; purchase supplemental feed; haul cattle to pastures in non-drought impacted areas; and/or to early wean calves and

either drylot or sell them. Favorable comments about the spreadsheets were received from producers in North Dakota, South Dakota, Montana, and Kansas.

Crop Economics

Eric DeVuyst found annual yields with more intensive cropping (IC) systems tend to be greater than those of spring wheat-fallow (SW-F), however, little economic comparison information is available. The long-term (12 yr) effects of tillage system and N fertilization on the economic returns from two dryland cropping systems in North Dakota were evaluated. An IC rotation [spring wheat (*Triticum aestivum* L.)-winter wheat (*Triticum aestivum* L.)-sunflower (*Helianthus annuus* L.)] and a SW-F rotation were studied. Tillage systems included conventional-till (CT), minimum-till (MT), and no-till (NT). Nitrogen rates were 34, 67, and 101 kg N ha⁻¹ for the IC system and 0, 22, and 45 kg N ha⁻¹ for the SW-F system. The IC system generated higher profits than the SW-F system, but the IC profits were more variable. Within the IC system, MT generated higher profits (\$106, \$122, and \$129 ha⁻¹ for 34, 67, and 101 kg N ha⁻¹ treatments, respectively) than corresponding N-treatments under CT (\$87, \$98, and \$104 ha⁻¹) and NT (\$79, \$103, and \$127 ha⁻¹), but MT profits were more variable. Increased N generally increased profits. This economic analysis shows that the annual profitability of the dryland IC system with MT (\$129 ha⁻¹) and NT (\$127 ha⁻¹) were more profitable than the best SW-F system (\$58 ha⁻¹) using CT. Analysis of the probability of negative returns to management revealed IC system was less likely to have negative returns than SW-F system and that SW-F may be economically infeasible.

Nganje, Wilson, and Leistriz studied direct and secondary economic impact estimates of scab losses from 1993-2001. The results quantify the losses from Scab and has great implications for crop quality insurance. Losses from 1998-2000 were estimated at \$2.7 billion.

Consumer Economics

Dr. Cheryl Wachenheim oversaw graduate student research addressing the effect of environmental impact information on consumer valuation of genetically modified foods. Bid prices were elicited for standard-label cookies, muffins, and potato chips and those guaranteed to be free of GM ingredients using an experimental auction. A non-GM guarantee increased bids over those offered for standard-label products. Providing negative-biased information about the impact of GM crops on the environment increased the risk participants associated with GM foods, and positive-biased information decreased perceived risk. However, in general, providing impact information, whether positive- or negative-biased, increased bids for products presumed GM. The influence of information bias on bids varied among selected participant groups, supporting the presence of uniquely responsive market segments. These findings may justify unique market promotion and advertising strategies. Certainly firms within the state should consider more specifically focusing promotional GM materials on markets including consumers who may know little about agricultural production technologies, especially biotechnology. This is also true for our state or national organizations speaking out against or advocating for the use of biotechnology for the same reason: some consumer groups will be more responsive to such

campaigns. Finally, results from running models individually by commodity suggest that the effect of biased-information (e.g., in an advertising campaign) on acceptability and/or willingness to pay for non-GM products may differ by product type. This also has important implications for firms looking to the relatively thin body of literature reporting on revealed preference for GM-food products.

Farm Policy, Trade and Macroeconomics

Won Koo and CAPTS faculty analyzed the potential impacts of alternative farm bills on the Northern plains agricultural economy and presented the results to decision makers in public and private sectors. Some of the results were presented in the U.S. senate and House hearings. Since the farm bill is directly related to this region's agricultural economy, the social and economic benefits of the studies on the region's economy are extremely significant.

Won Koo and CAPTS faculty also analyzed the impacts of the strong dollar on agricultural competitiveness in global markets using the most updated time series technique. The preliminary results were presented in U.S. Senate hearings. Since the United States exports about 50 percent of agricultural commodities and products produced in the United States, it is very important to analyze factors affecting US competitiveness in the global markets. CAPTS found that exchange rates are one of major factors affecting our competitiveness, suggesting significant implications in formulating trade policy.

Value Added Agriculture

Drs. Larry Leistriz and Cheryl DeVuyst assessed the socioeconomic impacts of new or expanding economic development projects in rural North Dakota, including agricultural processing plants, manufacturing operations and other primary sector business concerns. Information from this study will be used by community leaders in managing impacts associated with attracting new sources of economic activity in rural areas. The project is particularly timely because the rural areas of North Dakota are experiencing out-migration of population and decline of rural towns and communities. State and community leaders are interested in exploring ways to further develop opportunities for rural areas, including expansion of agricultural processing facilities and assisting communities in attracting other businesses. Research is needed to determine the overall socioeconomic impacts of new business activity in rural areas. Expanding beyond agricultural processing plants, and adding control communities without recent economic development activity, will aid in assessing socioeconomic impacts of rural business expansion in North Dakota and exploring the feasibility of attracting new business development for rural communities.

Dr. Cheryl DeVuyst developed a stock value model for cooperatives. Equity valuation for new generation cooperatives is problematic because of thinly-traded cooperative stocks and delivery rights/obligations tied to stock. A user-friendly, discounted cash flow model was developed to provide stock valuation ranges under varying scenarios. Cooperative management and member/owners may use the model to monitor cooperative valuation and investment opportunities.

Dr. William Nganje developed a financial simulation model under risk to determine optimal allocation strategies for New Generation Cooperatives. This model and an earlier developed deterministic model are used to train board members, CFOs, and other management personnel of New Generation Cooperatives.

Economic Development, Land Values and Public Policy

Dr. Richard Rathge continues to assess trends in North Dakota demographics. Findings in 2002 based on population projections suggest that the number of seniors in the state will dramatically increase over the next 10 years and require significant demand on various services. Rathge's policy recommendations include innovative partnerships with existing community services and the creation of incentives to foster informal caregiving. Rathge also investigated the consequences of migration for the state. I used 2000 Census data along with gross-flow files from the Internal Revenue Service (IRS) that encompass matched tax returns from 1998 to 2001. These files provide information on the change in tax filing (i.e., movement of filers), number of dependents, and income for that return. Thus, the net cost of population movement over time could be determined. Rathge's analysis reveals that during the past three years, North Dakota lost over \$384 million as a result of the net exchange in income among movers. This is the first systematic attempt to quantify the economic cost of population loss in the state.

The North Dakota Agricultural Land Valuation model is updated annually to determine the average value of crop land and grazing land by county for the state of North Dakota. Dr. Shultz and Dwight Aakre calculated a value based on the productive capacity of the land. The landowners share of gross receipts is capitalized by a rate determined from land mortgage interest rates to derive the average land value by county. The results of this study are turned over to the State Tax Department which is then distributed to individual counties. The average value calculated through this model for each county becomes the base value for determining the value of every individual quarter section of farm land in North Dakota. The State Board of Equalization reviews each counties total assessed value for agricultural land and requires each county to be within five percent of the value determined in our model.

Larry Leistriz and his staff analyzed the impacts of the Conservation Reserve Program (CRP). The CRP is a long-term cropland retirement program designed to achieve both agricultural supply control and conservation objectives. North Dakota landowners have participated extensively in the CRP; over the past few years, the state's CRP acreage has fluctuated between 3.1 and 3.3 million acres. While the effects of the CRP on agriculture are well understood, economic assessments of the market value of conservation benefits from the program accruing to rural economies remains largely undocumented. One of the conservation benefits of the program is wildlife habitat, which has bolstered upland bird, waterfowl, and big game populations and contributed to increased consumptive and nonconsumptive wildlife based recreation. A recent study addressed the net economic effects of decreased agricultural activity and increased recreational activity associated with the CRP in six rural areas of North Dakota from 1996 through 2000. The (negative) effects of the CRP on agricultural revenues were based on the level of economic activity that would have occurred in the absence of the program. The net change in revenues from CRP land returning to agricultural production in the six study areas was estimated at \$50.2 million

annually or \$37 per CRP-acre in the study areas. Additional recreational (hunting) revenues in the study areas were estimated at \$12.8 million annually or \$9.45 per CRP-acre (i.e., 26 percent of the agricultural losses). The net economic effect of the CRP (comparing losses of agricultural revenues and gains in recreational expenditures) indicated that several areas of the state are not as economically burdened by the CRP as previous research has suggested.

Dr. Shultz collaborated with USDA on assessing management strategies to control blackbird damage to sunflowers. Knowledge about the impact of site specific glyphosate spraying of blackbird habitat to reduce damage to sunflower crops has provided critical information regarding the economic feasibility of the spray program. The analysis is also being used for the USDA-APHIS Environmental Impact Statement required for their blackbird control program.

The lack of accurate watershed level flood damage data has been recognized as a serious problem when evaluating the economic feasibility of flood mitigation projects in the Red River Valley. Based on the research results provided by Dr. Shultz, several initiatives in the Red River Valley have been proposed to rectify the problem (e.g. improved database development projects).

2. Grants/Contracts/Research

New grants and contracts provided \$1,609,169 in calendar year 2002.

Department of Agribusiness and Applied Economics – 2002 Grants and Contracts

Investigator(s)	Agency	Project	Awarded
Flaskerud, George	USDA/Risk Management Agency	Marketing Club Facilitators Conference	\$7,150
Flaskerud, Geroge	USDA/CSREES	Risk Management Education	\$9,000
Gustafson, Cole	USDA/CSREES/University of Nebraska	Women's Farm Business Management Programming in North Dakota	\$2,000
Gustafson, Cole	ND Soybean Council	Strategic Economic Feasibility and Impact of Biodiesel in North Dakota	\$9,500
Gustafson, Cole and Leistriz, F. Larry	ND Department of Commerce	Strategic Economic Feasibility and Impact of Biodiesel in North Dakota	\$18,500
Koo, Won	ND Farmers Union	Analysis of Alternative Farm Bill Options on the ND Farm Economy	\$11,000
Lambert, David	ND State Board for Vocational Tech Ed	Farm Management for Profit Program	\$263
Lambert, David	USDA/CSREES/IFAFS	A Land Grant Network for Tribal College Community Watershed Natural Resources Education	\$251,502
Leistriz, F. Larry	USDA/ARS	Socioeconomic Effects/TEAM Leafy Spurge	\$72,685
Leistriz, F. Larry	ND Game & Fish Department	Characteristics, Expenditures, and Economic Impacts of Resident and Nonresident Hunters and Anglers in North Dakota	\$21,932
Leistriz, F. Larry	Montana Dakota Utilities Co.	Socioeconomic Effects of Developing the Lignite Vision 21 Project in Southwestern North Dakota	\$59,966

Lesitritz, F. Larry	Great Northern Power	Socioeconomic Effects of Developing the Lignite Vision 21 Project Near South Heart, North Dakota	\$48,491
Leistritz, F. Larry	USDA/ARS	Socioeconomic Assessment Component of TEAM Leafy Spurge	\$107,107
Leistritz, F. Larry	Lignite Energy Council	Analysis of Economic Contribution of the Lignite Energy Industry	\$2,500
Nelson, William and Wachenheim, Cheryl	North Central Regional Aquaculture	Hybrid Striped Bass Aquaculture: Marketing Center	\$13,650
Nganje, William	USDA/ARS	Economic Impact of FHB on Wheat and Barley: Update 1993-2001	\$29,576
Rathge, Richard and Olson, Kay	DHHS/CDC/ND Department of Health (PRAMS)	Prenatal Risk Assessment Monitoring System	\$71,000
Rathge, Richard	Annie E. Casey Foundation/UND	North Dakota Kids Count 2002 Activities	\$75,000
Rathge, Richard	Annie E. Casey Foundation/UND	Rural Kids Count Initiative	\$10,000
Rathge, Richard and Leistritz, F. Larry	USDA/CSREES	Regional Center for Rural Development in North Dakota - 2002 Special Grant	\$87,300
Rathge, Richard	University of South Dakota	Rural Poverty in the Northern Plains	\$13,913
Rathge, Richard	ND Department of Human Services	National Family Caregiver Support Program for North Dakota	\$114,800
Rather, Richard and Sander, Gregory	ND Department of Human Services	National Family Caregiver Support Program for Child Development & Family Science	\$443,724
Shultz, Steven	NASA/ND EPSCOR	Assessing the Taxable Value of Agricultural Land in North Dakota Using Satellite Imagery and Digital Soil Surveys	\$14,901

Shultz, Steven	USDA/APHIS	Economic Feasibility of Spraying Cattail-Choked Wetlands	\$22,294
Tweeten, Kathleen	Ewing Kaufman Foundation	Mini Society	\$40,415
Wilson, William	United Spring Wheat Bakers	Domestic and International Market Analysis for Value-Added Spring Wheat Products	\$10,000
Wilson, William	ND Wheat Commission	Economics of Testing, Certification and Segregation Strategies for GM Wheats	\$18,000
Wilson, William	ND Wheat Commission	Market Development Support	\$15,000
Wilson, William	ND Wheat Commission	Marketing Wheat on a Nil-Moisture Basis	\$8,000

3. Articles/Books/Publications (Calendar year 2002)

Journal Articles for 2002

Flaskerud, George K., William W. Wilson, and Bruce L. Dahl. "Managing Canola Price Risk." *Journal of the American Society of Farm Managers and Rural Appraisers*, 2002, p. 53-63.

Frechette, Darren L., and Hyun J. Jin. "Distinguishing Transitory Nonlinear Shocks from Permanent Structural Change." *Structural Change and Economic Dynamics*, 13(2002):231-248.

Gustafson, Cole R. "Transforming Extension as the Agricultural Sector Changes." *Journal of Extension* 40(1), February 2002.

Hearne, R., and Z. Salinas. "The Use of Choice Experiments in the Analysis of Tourist Preferences for Ecotourism Development in Costa Rica." *Journal of Environmental Management* 65(2):153-163, 2002.

Kaitibie, Simeon, Francis M. Epplin, Eugene G. Krenzer, Jr., and Hailin Zhang. "Economics of Lime and Phosphorus Application for Dual-purpose Winter Wheat Production in Low-pH Soils." *Agronomy Journal* 94(September 2002):1139-1145.

Koo, Won W. "The U.S. Cane and Beet Sugar Industry under U.S. and EU Trade Liberalization Policies." *Review of Agricultural Economics*, November 2002.

Leistriz, F. Larry, and Kenneth A. Root. "Rural Community Response to Closure or Downsizing of a Major Employer." *Rural America* 16(4):30-38, Winter 2002.

Leistriz, F. Larry, Nancy M. Hodur, and Dean A. Bangsund. "Socioeconomic Impacts of the Conservation Reserve Program in North Dakota." *Rural America* 17(3):57-65, Fall 2002.

Leistriz, F. Larry, Jay A. Leitch, and Dean A. Bangsund. "Regional Economic Impacts of Water Management Alternatives: The Case of Devils Lake, North Dakota, USA." *Journal of Environmental Management* 2002 (in press).

Nganje, William. "A Framework for Analyzing Economic Effectiveness of HACCP." *Journal of Food Control, The HACCP Journal*, in print 2002.

Nganje, William, Erick Schuck, and Charles Okibo. "An Economic Analysis of Information, Education, and Communication, (IEH) in Adoption of Slash and Burn Agriculture." *Journal of African Communication and Development* 4(1)(Winter):136-158, 2002.

Nganje, William, Frayne Olson, Brad Steifel, and William Nelson. "Financial Allocation Strategy for New Generation Cooperatives." *Journal of Cooperative Accounting* LV(3):39-47, Fall 2002.

Marchant, M., D. Cornell, and W. Koo. "International Trade and Foreign Direct Investment: Substitute or Complements?" *Journal of Agricultural and Applied Economics* 34(2):289-302, 2002.

Schuck, Eric, William Nganje, and Yantio Debazo. "The Role of Land Tenure and Extension Education in the Adoption of Slash and Burn Agriculture." *Journal of Ecological Economics* 43(1):61-70, December 2002.

Shultz, S., and M. Kjelland. "Estimating Watershed Level Flood Damage in the Red River Valley of the North." *Natural Hazards Review* 3(1):4-11.

Wachenheim, Cheryl J., and William C. Lesch. "Assessing New Graduate Applicants: Academic Perceptions and Agribusiness Realities." *Journal of Agribusiness*, pp. 163-173, Fall 2002.

Wachenheim, Cheryl J., and William C. Lesch. "Public Views on Family and Corporate Farms." *Journal of Agricultural & Food Information* 4(2):43-60, 2002.

Wachenheim, Cheryl J., and Richard Rathge. "Residence and Farm Experience Influence Perception of Agriculture: A Survey of North Central Residents." *Rural America* 16(4):18-29, Winter 2002.

Book Chapters and Book Reviews for 2002

Herren, Robert Stanley. Book Review of William B. Greer, *Ethics and Uncertainty, The Economics of John M. Keynes and Frank H. Knight* in *Journal of Economics* 28(No. 1, 2002):81-84.

Koo, Won W., Book Review of *Canadian Wheat Board: Marketing in the New Millennium*, by Schmitz and Furtan. *Journal of Agricultural and Applied Economics* 34(1):231-32, 2002.

Leistriz, F.L. Book Review of *A Cooperative Approach to Local Economic Development*, C.D. Merrett and N. Walzer, eds., for *Agribusiness: An International Journal*, 2002 (Forthcoming).

Nganje, William. Book Review of *AGRICULTURAL FUTURES AND OPTIONS Principles and Strategies*, by Wayne D. Purcell and Stephen R. Koontz. Upper Saddle River, NJ: Prentice Hall.

Agribusiness & Applied Economics Reports for 2002

2002 No. 505

[*Economic Feasibility of Biodiesel Production in North Dakota*](#), VanWechel, Tamara, Cole R. Gustafson, F. Larry Leistritz

2002 No. 504

[*Productivity Spillovers from Inward Foreign Direct Investment in the U.S. Food Processing Industry*](#), Sun, Changyou, Hyun Jin, Won W. Koo

2003 No. 503

[*Third Country Effects on U.S. Wheat Export Performance in Asian Countries*](#), Jin, Hyun, Guedae Cho, Won W. Koo

2002 No. 502

[*Horizontal and Vertical Intra-Industry Trade in the U.S. Food Processing Industry*](#), Sun, Changyou, Won W. Koo

2002 No. 501

[*Costs and Risks of Testing and Segregating GM Wheat*](#), Wilson, William W., Bruce L. Dahl
[2002 No. 501-S \(20-Page Summary\)](#)

2002 No. 500

[*Cooperative Marketing in Specialty Grains and Identity Preserved Grain Markets*](#), Janzen, Edward L., William W. Wilson

2002 No. 499

[*Perceptions of Leafy Spurge and Evaluation of the TEAM Leafy Spurge Project by Public Land Managers, Local Decision Makers, and Ranch Operators*](#), Hodur, Nancy M., F. Larry Leistritz, Dean A. Bangsund (*Forthcoming*)

2002 No. 498

[*Economic Impact of Scab with Alternative Risk Management Strategy: The Case of Crop Quality Insurance in Barley*](#), Nganje, E. William, Napoleon M. Tiapo, William W. Wilson

2002 No. 497

[*Rural Economic Effects of the Conservation Reserve Program in North Dakota*](#), Bangsund, Dean A., F. Larry Leistritz, Nancy M. Hodur
[2002 No. 497-S \(24-Page Summary\)](#)

2002 No. 496

[*Marketing of Wheat on a Constant and Nil Moisture Basis*](#), Wilson, William W., Bruce L. Dahl

2002 No. 495

[*The Logistical Costs of Marketing Identity Preserved Wheat*](#), Dahl, Bruce L., William W. Wilson

2002 No. 494

[*Profits and Risk: Fitting an Old Framework to a New Agriculture*](#), Wachenheim, Cheryl J., David M. Saxowsky

2002 No. 493

[*Ranch Operator's Perceptions of Leafy Spurge Management and Evaluation of the TEAM Leafy Spurge Project*](#), Hodur, Nancy M., F. Larry Leistritz, Dean A. Bangsund

2002 No. 492

[*U.S.-Canada Wheat Trade and its Effects on U.S. Price and Income*](#), Koo, Won W., Jeremy W. Mattson

2002 No. 491

[*Value of Feed Peas to Swine Diets*](#), Wachenheim, Cheryl J., Jeremy W. Mattson

2002 No. 490

[*Financial Characteristics of North Dakota Farms 1999-2001*](#), Swenson, Andrew L.

2002 No. 489

[*White Corn Production and Markets for North Dakota Growers*](#), Dahl, Bruce L., William W. Wilson

2002 No. 488

[*The Effect of Exchange Rate Volatility on Wheat Trade Worldwide*](#), Sun, Changyou, Mina Kim, Won Koo, Guedae Cho, Hyun Jin

2002 No. 487

[*2002 Outlook of the U.S. and World Sugar Markets, 2001-2011*](#), Koo, Won W., Richard D. Taylor

2002 No. 486

[*2002 Outlook of the U.S. and World Wheat Industries, 2001-2011*](#), Koo, Won W., Richard D. Taylor

2002 No. 485

[*2002 North Dakota Agricultural Outlook: Representative Farms, 2002-2011*](#), Taylor, Richard D., Won W. Koo, Andrew L. Swenson

2002 No. 484

[*U.S. Processed Food Exports and Foreign Direct Investment in the Western Hemisphere*](#), Mattson, Jeremy W., Won W. Koo

2002 No. 483

[*Offshore Commodity and Currency Hedging Strategy with Hedging Costs*](#), Jin, Hyun Joung, Won W. Koo

2002 No. 482

[*How Differently Do the Agricultural and Industrial Sectors Respond to Exchange Rate Fluctuation?*](#) Kim, MinKyoung, Won W. Koo

2002 No. 481

[*County Level Taxable Agricultural Land Values in North Dakota: Comparing the Gross Revenue Approach with Values Based on Rental Values*](#), Haugen, Ronald H., Dwight G. Aakre

2002 No. 480

Real Option Values for Guaranteed Rail Mechanisms, Wilson, William W., Jonathan A. Lee, William Steven Smith (*Forthcoming*)

2002 No. 479

[*Strategic Hedging for Grain Processors*](#), Wilson, William W., Robert Wagner, and William Nganje

2002 No. 478

[*U.S. Agricultural Trade with Western Hemisphere Countries and the Effect of the Free Trade Area of the Americas*](#), Mattson, Jeremy W., Won W. Koo

2002 No. 477

Logistical Costs and Risks of Marketing Genetically Modified Wheat, Schlecht, Shannon M., William W. Wilson, Bruce L. Dahl (*Forthcoming*)

2002 No. 476

[*Local Socioeconomic Impacts of the Conservation Reserve Program*](#), Hodur, Nancy M., F. Larry Leistritz, and Dean A. Bangsund
[2002 476-S \(16-Page Summary\)](#)

2002 No. 475

[*Economic Analysis of the U.S. House of Representatives Farm Bill, the Senate Agriculture Committee Farm Bill Proposal, and the Agricultural Conservation Rural Enhancement Act of 2001*](#), Taylor, Richard D., Won W. Koo

2002 No. 474

Logistical Costs and Strategies for Wheat Segregation, Schlecht, Shannon M., William W. Wilson, Bruce L. Dahl (*Forthcoming*)

Agribusiness & Applied Economics Miscellaneous Reports for 2001

002 No. 193

[Potential Corn Acreage Expansion for Ethanol Production: Western North Dakota--Minot](#), Gustafson, Cole R.

2002 No. 192

[Potential Corn Acreage Expansion for Ethanol Production: Western North Dakota](#), Gustafson, Cole R.

2002 No. 191

[Threshold Population Levels in Rural Retail Businesses in North Dakota 2000](#), Coon, Randal C., F. Larry Leistritz

Staff Papers for 2002

AE 02005

[Online Assessment: The Value of a Friend's Assistance](#), Gustafson, Cole R.

AAE 02004

[Price Risk Management Strategies for Grain Importers](#), Wilson, William W., Robert Wagner

AAE 02003

[North Dakota Lignite Energy Industry's Contribution to the State Economy for 2001 and Projected 2002](#), Coon, Randal C., F. Larry Leistritz

AAE 02002

[Economics of Producing for an Identity-Preserved \(IP\) Grain Market](#), Gustafson, Cole R.

Departmental Statistical Reports for 2002

2002 No. 57

[The Role of Agriculture in the North Dakota Economy](#), Leistritz, F. Larry, David K. Lambert, Randal C. Coon
[Report No. 57-S \(8-Page Summary\)](#)

4. Selected Presentations before Professional Audiences (Calendar year 2002)

DeVuyst, C. S. "Insights from a Newbie Faculty Member." *Managing Diversity: Beyond Race and Gender Organized Symposium*. American Agricultural Economics Association Annual Meeting, Long Beach, CA, July 29, 2002.

DeVuyst, C. S. "Food Processor Response to Genetically-Modified Inputs." American Agricultural Economics Association Annual Meeting, Long Beach, CA, July 29, 2002.

Gustafson, Cole R. "Accommodating Diversity Online Assessment - Faculty and Student Perspectives" The Collaboration Conference, Nov. 15, 2002, Minneapolis, MN.

Gustafson, Cole R. "Online Assessment - Faculty and Student Perspectives" Beyond Boundaries Conference, Grand Forks, Sept. 19-20, 2002

Hearne, R. and E. Motte Bienabe. 2002. "The Use Of Choice Experiments To Investigate Public Preferences For Biodiversity Conservation Within A Framework Of Environmental Services Payments." Selected paper presented at the Second World Congress of Environment and Resource Economists. Monterrey California, June 2002.

Hearne R., B. Barbier, and J. Gonzalez. 2002. "Development of Minimum Cost, Incentive Based Plan for the Implementation of a Technology Standard for Coffee Processing in Honduras." Selected Paper Presented at the American Agricultural Economics Association Annual Meeting. Long Beach Ca. July, 2002.

Hearne, R. and M. Volcan. 2002. "The Use of Choice Experiments to Analyze Consumer Preferences for Organic Produce in Costa Rica." Selected Paper Presented at the American Agricultural Economics Association Annual Meeting. Long Beach Ca. July, 2002.

Hearne, R. "El método de 'experimentación por selección' como metodología de valuación de servicios ambientales derivados de ecosistemas." Keynote presentation at the Expert's Meeting of Economic Valuation of Environmental Goods and Services from Amazonian Forests and Agroforestry Systems. Lima Peru, September 3, 2002.

Motte Biénabe, E. and R. Hearne. 2002. "Choice experiments: a way to investigate public preferences for biodiversity conservation within a framework of Environmental Services Payments". Presented at the Biennial Conference of the International Society for Ecological Economics. Sousse, Tunisia, March 2002. (presented by E. Motte Biénabe)

Herren, Stan. "Contrasts and Comparisons: Eisenhower versus Clinton CEAs" presented at the 2002 annual meeting of the Missouri Valley Economic Association

Herren, Stan. "The Evolution of Public-Private Partnerships: A Proliferation of Collaborative Forms" with Karen A. Froelich, presented at the 2002 Association for Research on Nonprofit Organizations and Voluntary Action conference

Marchant, Mary A., Won W. Koo, and Dyana N. Cornell. "*International Trade and Foreign Direct Investment: Substitution or Complements?*" (Invited paper), SAEA annual meeting, 2002, Orlando, FL.

Koo, Won W., "*U.S. Agricultural and Trade Policies and Implications on World Agriculture,*" (invited lecture), Chinese Agricultural University, Beijing, China, April 25, 2002 and Zhengzhou Institute of Technology, Zhengzhou, China, April 28, 2002

Koo, Won W., “*Impacts of China’s Accession into the WTO on World Agricultural Trade*” (invited paper), Conference on Free Trade of the Americas, the WTO, and Farm Legislation: Responding to Opportunities and Challenges, San Antonio, TX, May 23, 2002.

Kim, MinKyoung, Guedae Cho, and Won W. Koo, “*Does Exchange Rate Matter to Agricultural Bilateral Trade Between the United States and Canada?*” Canadian Agricultural Economics Society Annual Meeting, 2002, Calgary, Alberta, Canada.

Kim, MinKyoung, and Won W. Koo, “*How Differently Do the Agricultural and Industrial Sectors Respond to Exchange Rate Fluctuation?*” American Association of Agricultural Economics Annual Meeting, 2002 Long Beach, CA

Leistriz, F. Larry, and Kenneth A. Root. 2002. “North Dakota Communities’ Continuing Recovery from Closure/Downsizing of Major Employers,” paper presented at 2002 Annual Meeting of Midwest Sociological Society. April 4-6, at Milwaukee, WI.

Leistriz, F. Larry, Nancy M. Hodur, and Dean A. Bangsund. 2002. “Local Socioeconomic Impacts of the Conservation Reserve Program in North Dakota,” paper presented at 41st Annual Meeting of the Southern Regional Science Association, April 11-13, at Arlington, VA.

Bolles, Bethany, and F. Larry Leistriz. 2002. “Wind Energy in the Great Plains: The Socioeconomic Context,” paper presented at Global Windpower Conference, April 2-5 at Paris, France.

Leistriz, F. Larry, Steve H. Murdock, and Stan L. Albrecht. 2002. “Socioeconomic Effects of OCS Oil and Gas Development in the Gulf of Mexico,” paper presented at 2002 Conference of the International Association for Impact Assessment, June 15-22, at The Hague, Netherlands.

Marchant, Mary A., Dyana N. Cornell, and Won W. Koo, “*FDI in the Western Hemisphere,*” Conference on Free Trade of the Americas, the WTO, and Farm Legislation: Responding to Opportunities and Challenges, San Antonio, TX, May 23, 2002.

Nganje, William E. “The Role of Ph.D Agribusiness in Addressing Faculty Needs.” WCC-72 Proceedings, Las Vegas, June 2002.

Nganje, William E., Dean Bangsund, Larry Leistriz, William Wilson, and Napoleon Tiapo. “Estimating the Economic Impact of Crop Disease.” Proceedings of 2002 National Fusarium Head Blight Forum, Erlanger, KY, December 7-9, 2002.

O’Relley, Z. Edward. “Hungarian Privatization and Its Economic and Social Costs,” Paper presented at The International Applied Business Research Conference at Puerto Vallarta, Mexico, March 14-19, 2002.

Rathge, R. “Strengthening Rural Families,” presentation at the annual Kids Count conference, Bethesda, MD. September 12, 2002.

Rathge, R. "Buffalo Commons: A Decade Later," Keynote address at the Great Plains Sociological Association Annual Meeting, Fargo, ND. October 4, 2002.

Shultz, Steve. "Factors influencing the adoption of USFWS Wetland Easement Offers," 2002 Annual Meetings of W-133 Regional Project in Monterey, CA.

Sun, Changyou, MinKyoung Kim, Won Koo, Guedae Cho, and Hyun Jin, "*The Effect of Exchange Rate Volatility on Wheat Trade Worldwide*," American Association of Agricultural Economics Annual Meeting, 2002, Long Beach, CA.

Wachenheim, C.J. and T. VanWechel. "Biotechnology and ecolabeling. Paper presentation at the Conference on Ecolabels and the Greening of the Food Market," Boston, MA, November 7-9, 2002.

C. OUTREACH

1. Professional Service

Several faculty members occupy national or regional positions in professional organizations. Cheryl DeVuyst serves on the American Agricultural Economics Association's Employment Services Committee, the Committee for Women in Agricultural Economics, and is co-editor of the Committee's newsletter. Stan Herren is the Director for Public Affairs for the Missouri Valley Economic Association. Larry Leistriz is Chair of Committee Assignments Task Force for the International Association for Impact Assessment. Richard Rathge is on the Board of Directors and the Advisory Committee of the Midwest Sociological Society, is on the Steering Committee of the National State Data Center Program, and serves on the Development Committee of the Rural Sociological Society. Bill Wilson continues to serve as a Director of the Minneapolis Grain Exchange.

2. Alumni Events and Other Community-Related Activities

Department faculty are active in agricultural fraternities and sororities, attend reunion and honors banquets, and participate in agricultural shows and events in which College alumni are frequently present. Several faculty are active in the Fargo/Moorhead Chamber of Commerce committee on agribusiness and regional development.

3. Fund-Raising Accomplishments

The Department of Agricultural Economics offers the largest scholarship program on campus. Over \$33,000 was granted to students in Agricultural Economics this year. Much of the fund raising, coordination, and judging of applicants was done by Tim Petry prior to his transfer to the Extension Service. Becky Leitch has assumed the duties of scholarship coordinator within the department. One new scholarship was initiated during AY02. Departmental faculty provided financial support to several scholarships in early 2003 to offset poor returns from NDSU Development Foundation investments resulting in distributions less than the scholarship amounts.

Fund-raising for individual department-sponsored events, such as travel of the student NAMA chapter to the national competition in Denver in April, was conducted by students with organizational oversight by individual faculty members (primarily Cheryl Wachenheim).

4. Other Outreach Activities

Department faculty continue to provide talks, lead discussions, and provide media information to a variety of state and national requests.

D. SPECIAL INITIATIVES

1. Cultural Diversity

Departmental faculty increasingly reflect diversity. Cheryl DeVuyst, one of the department's three women faculty members, is active in national professional organization subcommittees promoting the role of women in agricultural economics. Won Koo serves on the U.S. Civil Rights Commission.

2. Affirmative Action/Equal Opportunity

The department continues to stress equal access to advertised positions. Selections for interviews, hiring decisions, annual evaluations, and promotion and tenure decisions are based entirely upon merit.

3. Cooperation Programming/Interdisciplinary Efforts/Interinstitutional Activities

Below is a listing of interstate research projects in which departmental faculty are involved.

Principal Investigator	Regional Committee/Title
Lambert, David K.	NCA-12, Dept Chairs in Ag Econ from NC States
Lambert, David K.	NC-1003, Impact Analysis and Decision Strategies for Agricultural Research
Nganje, William and Cheryl DeVuyst.	NC-221, Financing Agriculture and Rural America: Issues of Policy, Structure, and Technical Change
Leistritz, F. Larry	NC-222, Impact of Technology on Rural Consumer Access to Food and Fiber Products
Leistritz, F. Larry	NE-162, Rural Economic Development, Alternatives in the New Competitive Environment
Nganje, William and Cheryl DeVuyst	NE-165, Private Strategies, Public Policies, and Food System Performance
Koo, Won W.	S-287, Impacts of Trade Agreements and Economic Policies on Southern Agriculture
Nelson, William C.	NCR-194, Research on Cooperatives
Shultz, Steven D.	W-1133, Benefits and Costs of Resource Policies Affecting Public and Private Land
Wachenheim, Cheryl J.	WCC-72, Agribusiness Research Emphasizing Competitiveness and Profitability
Wilson, William W.	NC-224, Competitiveness and Value-Added in the U.S. Grain and Oilseed Industry

4. International Activities

Faculty participated in many international activities this year. Training sessions for international wheat trading groups included presentations to groups from several countries. Cheryl Wachenheim continues to coordinate the university's involvement with the summer undergraduate program with the *Ecole Supérieure d'Agriculture* in Angers, France. Won Koo was invited to collaborate with faculty at two Chinese universities to establish joint

teaching and research programs in agribusiness and international trade. Efforts are nearing completion to propose an M.S. degree in International Agribusiness, reflecting a collaborative effort between NDSU and the *Ecole Supérieure d'Agriculture* in Angers, France. Bill Wilson made presentations on wheat market differentiation and criteria for release of new wheat varieties in Argentina, grain procurement strategies in Tunisia, and discussed a variety of grain trade topics to NCI Trade Teams from Belgium, Peru, the EU, Japan, Italy, and Mexico.

5. Economic Development Efforts

One of the primary missions of the department is to aid in economic development efforts in North Dakota. Several faculty members are directly involved in economic development as a major component of their job responsibilities. Many of the grants, publications, presentations, and workshops listed earlier in the annual report reflect these efforts. Larry Leistritz, Richard Rathge, and Kathy Tweeten have primary responsibilities in economic development. Cole Gustafson worked on several initiatives concerning ethanol and biofuel development for the state.

6. Assessment

Undergraduate Program Assessment

Following is a summary of the departmental assessment report delivered July 2, 2002 to Robert Harrold, chair of the University Assessment Committee.

Intended Student Outcome #1: Proficiency in written communication

Action: Student papers in AgEc 420, 444, and 491 were assessed.

Assesment: While student writing skills vary from inadequate to excellent, the overall writing skill level is judged to be acceptable. Students are able to focus on a topic and communicate their arguments.

An extensive writing assignment in Applied Agricultural Law (375) requires students to 1) develop a relevant question and revise it after receiving feedback from the instructor, an English instructor, and a classmate; 2) review a classmate's draft question and offer editorial and content suggestions; 3) research and draft a discussion/answer to a selected legal problem; and 4) revise the paper after receiving feedback from the instructor and English instructor.

Plan: Students will continue to be required to take communications courses in excess of the university's general education requirements. The following courses will continue to require extensive writing assignments: AGEC 350 (AgriSales), 375, 420, 444, 445, 446, and 491.

Intended Student Outcome #2: Proficiency in oral communications.

Actions: Faculty observed student presentations in AgEc 420, 450 and 451 (National AgriMarketing Association), and 491.

Assessment: While skill levels vary between students, overall oral communication skills are good. Students have become adept at incorporating technology, such as PowerPoint, into their presentations. The use of technology has added to, rather than detracted from, the students' abilities to present information.

Additionally, a small number of students have been followed through various courses, including NAMA, over the last 3 years. Their presentation/speaking skills have vastly improved. This improvement is likely due to student participation in NAMA, speaking requirements in several department courses, communication course requirements in the majors, and participation in student clubs/organizations.

Plan: Students will continue to be required to take communication courses in excess of the university's general education requirements. The following courses will continue to require extensive oral communication assignments: AGEC 350 (AgriSales), 420, 444, 445, 450, 451, and 491.

Intended Student Outcome #3: Effective teamwork and group decision-making skills.

Action: Student teams were evaluated in AgEc 374, 420, 445, 450 and 451 (NAMA), and 484. Both written and oral reports were evaluated.

Assessment: AGEC 374 (Cooperatives) relied upon student committees formed for the duration of the semester and assigned the following functions: 1. Internally organize the committees so that each member had a unique responsibility. The responsibilities were chairperson, secretary and communications, market analysis, cost and risk analysis, articles of incorporation and bylaws, business plan and the equity drive presentation; 2. Determine the type and optimal location of a business to be formed; and 3. Develop each component of the business plan and prepare and deliver a presentation of the plan. Teams met weekly, minutes were taken and distributed, and progress reports (drafts of each component) were submitted for review and comment.

AgEc 420, 450 and 451 rely almost exclusively on team projects. Student teams in 420 develop integrated farm business plans for actual case farms, present their analyses and recommendations to the class, and prepare written reports for the instructor. The 420 team reports are forwarded to the participating farmers. Past farmer participants have indicated that the teams' analyses and recommendations have been helpful in business planning. Student teams in 450 and 451 prepare a written market plan for an agribusiness venture and present the resulting marketing plans to the faculty,

at the annual Agribusiness Club Banquet, and at the national NAMA competition. AGECE 445 requires student teams to develop 20 page written reports and make oral presentations of the semester-long team projects. While the individual contributions to teams are difficult to judge, overall team products – presentations and written reports – are considered acceptable.

Plan: Extensive use of teamwork will continue in ECON 202 (web-based section), AGECE 242, 246, 339, 420, 450, 451, 445, 446, and 484.

Intended Student Outcome #4: Ability to integrate subject matter knowledge and other basic skills to solve economic and management problems.

This outcome will be assessed later in summer 2002 as part of an assessment of the department's general education courses.

Intended Student Outcome #5: Ability to use computer technology.

Action: In AgEc 339, students are tested (but not graded directly) on their ability to use spreadsheets. In the two versions of the 339 test (administered by the Mathematics Department), 43% and 45% of the students received at least a "B" on questions addressing spreadsheet skills. 77% and 70% received at least a "C". No students received an "F." Students' use of PowerPoint and other multimedia communication software is evaluated as part of several department courses. Required use of word processors, spreadsheets, the internet and email is standard in much of the curriculum. Both students participating in NAMA and in the summer French Study Abroad program are responsible for daily postings to a web journal available on the department's website (<http://www.ext.nodak.edu/homepages/aeddept/onlocation.htm>).

Assessment: Students are increasingly skilled in technology usage. Students appear well prepared to employ these skills to solve problems, research information and communicate results.

Plan: Introductory courses, such as 242 and 246, will continue to require spreadsheet use. Use of communication technologies will continue to be required in numerous courses. An experimental online version of Econ 202 will be offered in the spring semester of 2003.

Additional assessment activity:

In AgEc 339, quantitative reasoning skills were assessed. Bill Martin from the Mathematics Department administered the exam. AgEc 339 is required for both the Agricultural Economics and Agribusiness degrees and is generally taken by students with junior standing. As was the case last year, students performed poorly on this exam. Algebra, calculus and statistics skills are all found lacking. The only bright spot was the students'

ability to use spreadsheets. In response to the exam, the department chair will be appointing an ad hoc committee to develop a plan to integrate the use of mathematics and statistics into more of the department's courses.

Graduate Program Assessment

Intended Student Outcome #1: Students will demonstrate the ability to conduct research in Agricultural Economics using quantitative and qualitative methodology.

Action: The quality of M.S. theses is evaluated by committee members and by faculty members participating in thesis defenses.

Assessment: The quality of the student research is judged adequate. Students are particularly skilled at addressing issues of regional interest. Based on these M.S. theses, econometric and mathematical programming skills are judged adequate.

Action: The department will continue to require courses in econometrics and operations research.

Intended Student Outcome #2: Ability to integrate subject matter knowledge and other basic skills to solve economic and management problems.

Action: Last year the department offered two re-designed courses in applied economics and agribusiness. The success of these two course at achieving this intended student outcome will be assessed as the current M.S. students begin defending their M.S. research during the 2002-2003 academic year.

Assessment Plan for 2002-2003.

- ❑ The department will complete an assessment of the department's general education offerings in Summer 2002.
- ❑ A department committee will develop a plan to integrate mathematics and statistics more thoroughly into the undergraduate curriculum.
- ❑ Assessment criteria need to be updated to reflect the increase in undergraduate degrees available and options available to M.S. students.

7. Addressing Institutional Purposes

Teaching – Departmental resources have been diverted to meet University objectives of developing graduate programs in transportation, food safety, and natural resource management. Additional resources have been allocated to providing distance education courses in AgriSales and in Agricultural Law to students enrolled in other universities and to a small number of nontraditional distance learners. Costs exceed benefits in these programs given more pressing needs in meeting undergraduate demand for service courses in economics and agricultural economics, meeting the needs of our traditional students, and

developing demand for departmental programs among students not normally drawn to the College of Agriculture, Food Systems, and Natural Resources.

Research – The department enjoys a national reputation in several research areas. Research programs in international agricultural trade are well respected around the country. Several researchers continue to produce respected articles in nationally reviewed academic journals. Research of non-tenure track researchers in the Center for Agricultural Policy and Trade Studies is appearing in a growing number of disciplinary journals. Bill Wilson has provided timely research results addressing the introduction of genetically modified wheat. Research of local interest has identified costs associated with plant disease and invasive species, international trade effects on North Dakota producers, and provided economic analyses of natural resource issues including floodplain characteristics and economic impacts of the Conservation Reserve Program.

The Department received \$1,609,169 in new grants in 2002, fifth among NDSU departments. (*NDSU Annual Report: External Funding Awards – 2002*).

Outreach/Extension – Extension is the quintessential model of the engaged university. Efforts resulting from the transfer of Tim Petry to Extension will address value added livestock agriculture development within the state, an area receiving substantial focus by state government and agriculture organizations. Involvement with agribusiness firms and groups by several of the faculty increase the opportunities for mutually beneficial engagement. Neither Larry Leistriz nor Richard Rathge receive Extension support, yet both conduct numerous applied research projects having a direct impact on local and state government decision making. Research-based outreach provided by Bill Wilson in grain markets, by Won Koo in agricultural trade and policy issues, and by Eric DeVuyst in farm management increase the profile of the department and the university in the state.

8. College/Unit Planning; Functions/Activities/Accomplishments

Several meetings are held during the year to address needs in undergraduate and graduate programs. Results of meetings in 2002 confirmed directions taken by the department, though marginal changes have resulted in course and program modifications. The College is preparing a new strategic plan in 2003, which will involve intensive departmental evaluation of both its current programs and future alliances within the College and the wider campus community.

E. Other Goals

Goals continue to be to provide an excellent learning environment for our students, to conduct research useful to the state as well as gaining disciplinary recognition for the quality of research conducted by departmental faculty, and to provide outreach education to enable people in the state to make economically sound decisions in the private, public, and business endeavors.

II. COMMENTS

What each department's future plans are, future challenges and program strengths, as well as the overall unit.

Teaching – We will continue to provide rigorous training in economics and agribusiness. The Department continues its commitment to focusing on agribusiness and trade as key areas of expertise. The M.S. program has had two extremely good years in terms of recruitment and funding of new students (2001-2 and 2002-3). Additional resources are necessary to sustain faculty involvement in the economics options within the new Ph.D. programs in Transportation and Logistics, Food Safety and Natural Resource management.

A major challenge for the department's teaching program in 2003 is to increase student numbers in the three undergraduate majors.

Research – Continued emphasis on publication of research results in highly regarded disciplinary journals will increase the stature of the faculty publishing in these outlets, with subsequent benefits for the department and the university. Continued pursuit of extramural funds is important to offset reductions in real terms in state support, as well as to increase resources available for faculty research and graduate programs.

Extension – Continued interaction between Extension economists and research/teaching faculty will improve the quality of the products delivered to people in the state, as well as improve the application of faculty research to real world problems.

How each department makes use of assessment data in decision making within the framework of the institution's mission and purpose.

Results of the mathematical skills assessment conducted during the fall 2000 and 2001 semesters indicated a poor ability of many of our students to incorporate appropriate mathematical techniques in economic decision making. Departmental response will be to increase use of mathematics across the curriculum to reinforce skills learned in calculus or other math courses. The mathematical component of ECON 341 (Intermediate Microeconomics) was greatly increased in the spring 2003 semester and will be maintained. Written and oral communication skills of the students are adequate in many cases, though continued concentration on and rigorous evaluation of written assignments and oral and multimedia presentations is necessary to improve the communication skills of our students.

III. APPENDIX. CY 2002 courses

Instructor	Term	Prefix	Course No	Title	Credits	Enrollment	FTEs
Grand Total - 2002 Calendar Year							
100-200		AG/ECON	0	Summary	94	1998	7.65
300-400		AG/ECON	0	Summary	102	875	5.11
600-700		AG/ECON	0	Summary	56	203	1.23
Grand Total - 2002 Calendar Year					252	3076	13.98
Fall 2003							
100-200	031	AG/ECON	0	Summary	42	951	3.67
300-400	031	AG/ECON	0	Summary	21	247	1.77
600-700	031	AG/ECON	0	Summary	23	83	0.55
O'Relley, E	031	ECON	105	Elements of Economics	3	100	0.375
O'Relley, E	031	ECON	105	Elements of Economics	3	100	0.375
Leitch, B	031	AGEC	201	Principles of Microeconomics	3	58	0.218
Leitch, B	031	ECON	201	Principles of Microeconomics	3	167	0.626
Leitch, B	031	ECON	201	Principles of Microeconomics	3	15	0.056
Leitch, B	031	ECON	201	Principles of Microeconomics	3	105	0.394
Mack, L	031	AGEC	202	Principles of Macroeconomics	3	28	0.105
Mack, L	031	ECON	202	Principles of Macroeconomics	3	136	0.510
Mack, L	031	AGEC	202	Principles of Macroeconomics	3	20	0.075
Mack, L	031	ECON	202	Principles of Macroeconomics	3	139	0.521
DeVuyst, E	031	AGEC	242	Farm & Agribusiness Management 1	4	41	0.205
DeVuyst, E	031	AGEC	242	Farm & Agribusiness Management 1	4	36	0.180
DeVuyst, E	031	AGEC	242	Farm & Agribusiness Management 1	4	6	0.030
Herren, S	031	ECON	324	Money & Banking	3	37	0.204
Herren, S	031	ECON	324	Money & Banking	3	37	0.204
Lambert, D	031	AGEC	339	Quant Methods & Decision Making	3	30	0.165
Lambert, D	031	AGEC	339	Quant Methods & Decision Making	3	29	0.160
O'Relley, E	031	ECON	341	Intermediate Economics	3	59	0.325
Mack, L	031	AGEC	342	Farm & Agribusiness Management 2	3	19	0.105
Saxowsky, D	031	AGEC	375	Applied Agriculatural Law	3	36	0.199
Wilson, W	031	AGEC	444	Crops Marketing	3	20	0.110

Instructor	Term	Prefix	Course No	Title	Credits	Enrollment	FTEs
Wilson, W	031	AGEC	445	Agricultural Market Organization	3	27	0.149
Nelson, B	031	AGEC	450	NAMA	1	8	0.015
Koo, W	031	ECON	472	International Trade	3	11	0.061
DeVuyst, C	031	AGEC	491	Sr Agribusiness Seminar	2	11	0.040
Petry, T	031	AGEC	494	IS/Livestock Marketing	1	1	0.002
Herren, S	031	AGEC	494	IS/Evolution of Econ Ideas	3	1	0.006
DeVuyst, C	031	AGEC	496	Field Experience	2	2	0.007
Nganje, W	031	AGEC	496	FE/John Deere Mgmt Internship	3	1	0.006
Wachenheim, C	031	AGEC	496	FE/John Deere Mgmt Internship	3	1	0.006
DeVuyst, C	031	AGEC	496	FE/AG Business	2	1	0.004
Nganje, W	031	AGEC	496	FE/Progresive Ag Internship	3	1	0.006
Koo, W	031	ECON	672	International Trade	3	1	0.010
Shultz, S	031	AGEC	701	Research Philosophy	1	12	0.042
Sarmiento, C	031	AGEC	710	Econometrics	3	9	0.094
DeVuyst, E	031	ECON	741	Advanced Microeconomics	3	13	0.135
Wilson, W	031	AGEC	746	Agbus 11/AgFin/Comm Tra	3	8	0.028
DeVuyst, C	031	AGEC	746	Agbus 11/AgFin/Comm Tra	3	8	0.028
Nganje, W	031	AGEC	746	Agbus 11/AgFin/Comm Tra	3	8	0.028
Bitzan, J	031	AGEC	771	Non-Metro Trans Systems	3	5	0.052
Wilson, W	031	AGEC	791	TTT/Spreadshet Dec Models	1	9	0.031
Various	031	AGEC	798	Masters Thesis	Variable	10	0.108

Instructor	Term	Prefix	Course No	Title	Credits	Enrollment	FTEs
Summer 2002							
100-200	024	AG/ECON	0	Summary	6	50	0.19
300-400	024	AG/ECON	0	Summary	21	69	0.31
600-700	024	AG/ECON	0	Summary	4	17	0.16
O'Relley, E	024	ECON	201	Principles of Microeconomics	3	30	0.113
O'Relley, E	024	ECON	202	Principles of Macroeconomics	3	20	0.075
Herren, S	024	ECON	324	Money & Banking	3	21	0.116
Nganje, W	024	SAFE	470	Econ/Fd Safety	3	15	0.027
Nganje, W	024	SAFE	670	Econ/Fd Safety	3	5	0.017
Nganje, W	024	SAFE	480	Fd Safety Practicum	0	0	0.000
Nganje, W	024	SAFE	680	Fd Safety Practicum	0	0	0.000
Wachenheim, C	024	AGEC	496	FE/Grain Mgmt	1	1	0.002
Wachenheim, C	024	UNIV	379	Study Abroad	3	11	0.061
Wachenheim, C	024	AGEC	499	ST/Issues/Int'l Integration Trade	3	11	0.061
Nganje, W	024	AGEC	496	Field Exp/Farm Mgmt	3	1	0.006
DeVuyst, C	024	AGEC	496	Field Exp / Dairy Mgmt	3	1	0.010
Devuyst, C	024	AGEC	496	Field Exp/Agribusiness	2	8	0.029
Gustafson, C	024	AGEC	793	IS/Financing Feedlots	1	1	0.003
Various	024	AGEC	798	Masters Thesis	Variable	11	0.14

Instructor	Term	Prefix	Course No	Title	Credits	Enrollment	FTEs
Spring 2002							
100-200	023	AG/ECON	0	Summary	46	997	3.79
300-400	023	AG/ECON	0	Summary	60	559	3.03
600-700	023	AG/ECON	0	Summary	29	103	0.51
O'Relley, E	023	ECON	105	Quant. Econ	3	56	0.210
Leitch, B	023	ECON	150	Quant. Econ	2	34	0.085
Leitch, B	023	AGEC	201	Principles of Microeconomics	3	28	0.105
Leitch, B	023	ECON	201	Principles of Microeconomics	3	155	0.581
Leitch, B	023	AGEC	201	Principles of Microeconomics	3	24	0.090
Leitch, B	023	ECON	201	Principles of Microeconomics	3	155	0.581
Gustafson, C	023	AGEC	202	Principles of Macroeconomics	3	50	0.188
Gustafson, C	023	ECON	202	Principles of Macroeconomics	3	103	0.386
Mack, L	023	AGEC	202	Principles of Macroeconomics	3	8	0.030
Mack, L	023	ECON	202	Principles of Macroeconomics	3	67	0.251
Mack, L	023	AGEC	202	Principles of Macroeconomics	3	27	0.101
Mack, L	023	ECON	202	Principles of Macroeconomics	3	137	0.514
Petry, T	023	AGEC	244	Agric Mktg, Livestock Emphasis	3	79	0.296
DeVuyst, C	023	AGEC	246	Agricultural Finance I	4	38	0.190
DeVuyst, C	023	AGEC	246	Agricultural Finance I	4	36	0.180
Herren, S	023	ECON	324	Money&Banking	3	48	0.265
Herren, S	023	ECON	324	Money&Banking	3	46	0.254
Sarmiento, C	023	AGEC	344	Agricultural Price Analysis	3	50	0.276
Nganje, W	023	AGEC	346	Agricultural Finance II	3	47	0.259
O'Relley, E	023	ECON	341	IntermedMicro	3	34	0.188
Cooper	023	ECON	343	IntermedMacro	3	50	0.276
Shultz, S	023	AGEC	347	Principles Real Estate	3	25	0.138
Shultz, S	023	BUSN	347	Principles Real Estate	3	47	0.259
Nelson, B	023	AGEC	374	Cooperatives	3	26	0.143
Nelson, B	023	BUSN	374	Cooperatives	3	9	0.050
Wachenheim, C	023	AGEC	399	AgriSales	3	26	0.143
DeVuyst, E	023	AGEC	420	Int Farm Mgmt	3	23	0.127
Gustafson, C	023	AGEC	446	Agribusiness Finance	3	25	0.138
Wachenheim, C	023	AGEC	451	NAMA II	2	7	0.026

Instructor	Term	Prefix	Course No	Title	Credits	Enrollment	FTEs
O'Relley, E	023	ECON	461	EconDev	3	13	0.072
Berwick, M	023	AGEC	472	Logistics/Trans	3	0	0.000
Hearne, R	023	ECON	482	Env Econ	3	15	0.083
Shultz, S	023	AGEC	491	Nat Resource & Rural Econ Policy	1	12	0.022
Wachenheim, C	023	AGEC	484	AgPolicy	3	54	0.298
Wachenheim, C	023	AGEC	496	Field Exp	3	1	0.006
Herren, R	023	ECON	494	IS	3	1	0.006
Gustafson, C	023	AGEC	646	Agribusiness Finance	3	2	0.021
Wilson, W	023	AGEC	744	Agricultural Marketing	3	11	0.038
Wachenheim, C	023	AGEC	744	Agricultural Marketing	3	11	0.038
Devuyst, C	023	AGEC	744	Agricultural Marketing	3	11	0.038
Bitzan, J	023	AGEC	772	Rural Logistics	3	5	0.052
Herren, S	023	BUSN	780	BusCond Anal	3	37	0.128
Sarmiento, C	023	AGEC	791	Forecasting Econ. Time Series	1	1	0.001
Koo, W	023	AGEC	791	Demand Models	1	5	0.006
Hearne, R	023	ECON	793	Env Econ	3	1	0.003
Leistriz, L	023	AGEC	793	Int Frm/Ranch Mgmt	3	1	0.010
DeVuyst, E	023	AGEC	793	Int Frm/Ranch Mgmt	3	7	0.073
Various	023	AGEC	798	Masters Thesis	Variable	11	0.104